

by Robert S. Butler,
Hilary A. Vinson, and
Richard G. Biggins

Imperilled Streams Exhibit at Tennessee Aquarium



Photos courtesy of Wilderness Graphics, Inc.

A banded water snake (*Natrix sipedon*) slithers upstream defying the strong current. A huge wrinkled hellbender (*Cryptobranchus alleganiensis*) peeks from behind a boulder. The stilt-like legs of a great blue heron (*Ardea herodias*) step gingerly across the rocky bottom. Rooted submergent plants bend to the force of rushing water. Thrusting out its hand-like jaws, a dragonfly larva snatches an unsuspecting juvenile fish. Various freshwater mussels attempt to lure a host fish for their temporarily parasitic larvae.

These and numerous other aquatic creatures and plants comprise a composite underwater stream ecosystem of the southeastern United States. The rarely seen ecosystem is depicted larger than life in a mural that is the centerpiece of a newly created exhibit at the Tennessee Aquarium. This facility, located on the bank of the Tennessee River in Chattanooga, is the world's first major aquarium dedicated to freshwater ecosystems. The exhibit features streams and their imperilled biota, with a focus on freshwater mussels—the most endangered large group of organisms in North America.

The idea of several U.S. Fish and Wildlife Service and U.S. Geological Survey (USGS) biologists, the imperilled streams exhibit was designed by Wilderness Graphics, Inc., of Tallahassee, Florida. Funding was provided by three of the Service's field offices (Asheville, North Carolina; Jackson, Mississippi; and Jacksonville, Florida), the USGS, U.S. Forest Service, and

National Park Service. Technical assistance from various personnel of the Tennessee Aquarium, federal agencies, and Wilderness Graphics contributed to this major undertaking.

Throughout the exhibit, visitors learn about the diversity of life in our southeastern streams and ways they can make a difference in maintaining the quality of that life. The exhibit includes state-of-the-art touch-screen computer programs, laser light maps, and other alluring displays. It includes an array of our region's fancifully named mussels, featuring their staggering range of sizes and shapes, superimposed over a drainage map. The "Mosaic of Life" array of crayfish photographs shows the brilliant color patterns seldom seen in this otherwise inconspicuous aquatic group. Computer video segments illustrate mussel ecology and economic uses, aquatic biodiversity, threats to healthy streams, and the importance of clean water and quality habitat to the stream ecosystem—and to us.

Many parts of the exhibit require hands-on participation. A back-lit map of the Tennessee River lights up on with the push of a button. The exhibit also features "touchable" specimens (models), compares growth rings of trees and mussel shells, and tells of aquatic diversity. Interpretive computers show how a fish finds food, explain the natural history of organisms in the mural, relate examples of the colorful common names of mussels, explain how geology has influenced biodiversity, examine the importance of insects, and stress why we all need clean water to survive. Rounding out the exhibit is a diagram representing various human threats to streams, with a panel telling citizens how they can help protect streams.

The Tennessee Aquarium's imperilled streams exhibit is a stellar example of how partnering with other federal agencies and private organizations

resulted in a project the Service could not have accomplished alone. With the Aquarium's annual visitation rate of approximately 1.2 million people, including a significant percentage of young students, our message will be broadcast widely. Upon leaving the exhibit, visitors will certainly take a little more knowledge, and hopefully more pride in their streams, home with them.

Robert S. Butler, Riparian Lands Restoration Biologist; Hilary A. Vinson, Education and Outreach Coordinator; and Richard G. Biggins, Fish and Mollusk Recovery Coordinator, work in the Service's Asheville, North Carolina, Field Office.



The exhibit won a National Association for Interpretation 1998 Media Award (Third Place, Interior Exhibit category)

